



National Toxicology Program

U.S. Department of Health and Human Services

LITERATURE SEARCH RESULTS

**FOR THE SYSTEMATIC REVIEW OF
TRANSGENERATIONAL INHERITANCE OF HEALTH EFFECTS**

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Office of Health Assessment and Translation
Division of the National Toxicology Program
National Institute of Environmental Health Sciences
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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

LITERATURE SEARCH RESULTS

Literature Search

Search terms were developed by an informationist (SDH) familiar with systematic review methodology to identify all relevant published evidence indexed in the PubMed database (MEDLINE) that addressed the PECO statement for transgenerational inheritance of health effects potentially associated with a wide range of exposures. Since there are no MeSH terms for transgenerational effects or transgenerational inheritance, our search strategy was developed using text words that describe a transgenerational study and terms used to report the topic of transgenerational inheritance in the literature. The resulting strategy was used to search PubMed (specific search terms presented in [Appendix 1](#)). No language restrictions or publication year limits were imposed and PubMed was searched up to November 2016.

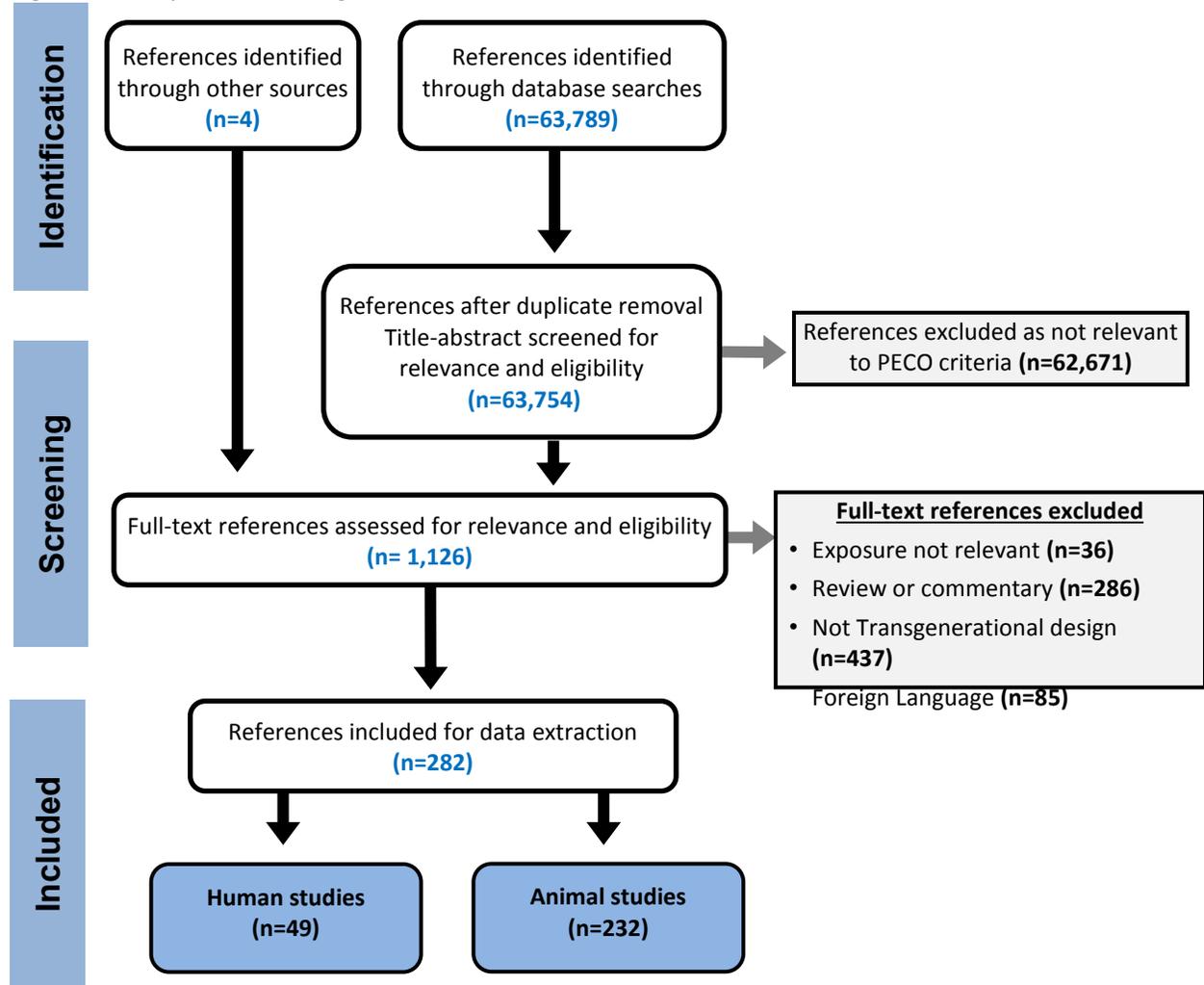
Database Searched

- PubMed

Literature Search Results

The Pubmed database search retrieved 63,789 references and 3 additional references were identified by experts or reviewing published reviews and reference lists from the included studies. Ninety-eight percent of the total references retrieved (62,671) were excluded during the title and abstract screening and 844 were excluded during the full text review for not satisfying the PECO criteria. After full text review, 282 studies were considered relevant; 49 human and 232 animal studies ([Error! Reference source not found.](#)).

Figure 1. Study Selection Diagram



REFERENCES INCLUDED AFTER FULL-TEXT REVIEW

List of Included Studies

Studies in humans

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APPENDICES

Appendix 1. Literature Search Strategy

There are no major subject heading terms for transgenerational effects or transgenerational inheritance. Therefore, the search strategy required development of a search strategy that addressed key terms associated with the various concepts of transgenerational inheritance such as “transgenerational”, “multigenerational” or “intergenerational” studies as well as terms to address successive generations. To capture all of the concepts, the full search strategy combined each of the numbered searches described below (#1-5). This evaluation is focused on the evidence of transgenerational inheritance and not the mechanism of action; therefore, we did not include mechanistic or mechanism of action terms in our search.

Search number	Specific Search Terms
#1	Transgeneration*[tiab] OR trans-generation*[tiab]
#2	multigeneration*[tiab] OR multi-generation*[tiab] OR intergeneration*[tiab] OR inter-generation*[tiab]
#3	(F2 OR "F 2" OR "F(2)" OR F3 OR "F 3" OR "F(3)" OR F4 OR "F 4" OR "F(4)" OR F5 OR "F 5" OR "F(5)" OR F6 OR "F 6" OR "F(6)" OR F7 OR "F 7" OR "F(7)" OR F8 OR "F 8" OR "F(8)" OR F9 OR "F 9" OR "F(9)" OR F10 OR "F 10" OR "F(10)") AND (generation*[tiab] OR offspring[tiab] OR progeny[tiab])
#4	"two generations"[tiab] OR "second generation"[tiab] OR "second generations"[tiab] OR "three generations"[tiab] OR "third generation"[tiab] OR "third generations"[tiab] OR "four generations"[tiab] OR "fourth generation"[tiab] OR "fourth generations"[tiab] OR "five generations"[tiab] OR "fifth generation"[tiab] OR "fifth generations"[tiab]
#5	Greatgrandparent*[tiab] OR "Great Grandparent"[tiab] OR "Great Grandparents"[tiab] OR "Great Grand Parent"[tiab] OR "Great Grand Parents"[tiab] OR Greatgrandfather*[tiab] OR "Great Grandfather"[tiab] OR "Great Grandfathers"[tiab] OR "Great Grand Father"[tiab] OR "Great Grand Fathers"[tiab] OR Greatgrandmother*[tiab] OR "Great Grandmother"[tiab] OR "Great Grandmothers"[tiab] OR "Great Grand Mother"[tiab] OR "Great Grand Mothers"[tiab] OR Greatgrandchild*[tiab] OR "Great Grandchild"[tiab] OR "Great Grandchildren"[tiab] OR "Great Grand Child"[tiab] OR "Great Grand Children"[tiab] OR Greatgrandson*[tiab] OR "Great Grandson"[tiab] OR "Great Grandsons"[tiab] OR "Great Grand Son"[tiab] OR "Great Grand Sons"[tiab] OR Greatgranddaughter*[tiab] OR "Great Granddaughter"[tiab] OR "Great Granddaughters"[tiab] OR "Great Grand Daughter"[tiab] OR "Great Grand Daughters"[tiab] OR Grandparent*[tiab] OR "Grand Parent"[tiab] OR "Grand Parents"[tiab] OR Grandfather*[tiab] OR "Grand Father"[tiab] OR "Grand Fathers"[tiab] OR Grandmother*[tiab] OR "Grand Mother"[tiab] OR "Grand Mothers"[tiab] OR Grandchild*[tiab] OR "Grand Child"[tiab] OR "Grand Children"[tiab] OR Granddaughter*[tiab] OR "Grand Daughter"[tiab] OR "Grand Daughters"[tiab] OR Grandson*[tiab] OR "Grand Son"[tiab] OR "Grand Sons"[tiab]
Full search	Full search was the combination of each of the concepts listed above (#1 OR #2 OR #3 OR #4 OR #5)